

### Amendments to the Specification

On page 41, please replace the Abstract with the following replacement Abstract:

#### ABSTRACT OF THE INVENTION

~~The present invention relates to a novel tissue culture system that provides A~~  
method is provided for the long term culture of proliferating hepatocytes that retain hepatic  
function to produce a hepatic cell culture. Disclosed are methods and compositions for ex vivo  
culturing of Hepatocytes and nonparenchymal cells are co-cultured ex vivo on a matrix coated  
with a molecule that promotes cell adhesion, proliferation or survival, in the presence of growth  
factors, resulting in a long-term culture of proliferating hepatocytes that retain hepatic function.  
The co-culturing method results in the formation of matrix/hepatic cell clusters that may be  
mixed with a second structured or scaffold matrix that provides a three-dimensional structural  
support to form structures analogous to liver tissue counterparts. ~~The hepatic cell culture system~~  
method can be used to form bio-artificial livers through which a subjects blood is perfused. In an  
embodiment, the hepatocytes and nonparenchymal cells are derived from disaggregated liver  
tissue and are co-cultured in the presence of epidermal growth factor or hepatocyte growth factor  
and beads coated with extracellular matrix protein. Alternatively, ~~the novel~~ hepatic cell culture  
~~system~~ may be implanted into the body of a recipient host having a hepatic disorder. Such  
hepatic disorders, include, for example, cirrhosis of the liver, induced hepatitis, chronic hepatitis,  
primary sclerosing cholangitis and alpha<sub>1</sub> antitrypsin deficiency.